

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (currently amended) A method of filling a flow passage inside a liquid droplet ejection head with a function liquid, comprising the steps of:

sending under pressure the function liquid for filling into the flow passage inside the liquid droplet ejection head; and

thereafter sucking the function liquid out of a nozzle of the liquid droplet ejection head;

wherein a flow velocity of the function liquid at each part at the step of sending the function liquid under pressure is lower than a flow velocity of the function liquid at each part at the step of sucking the function liquid.

2. (canceled).

3. (original) The method according to claim 1, wherein the step of sucking is performed in a state in which a suction cap is closely adhered to the liquid droplet ejection head, and wherein the step of sending the function liquid under pressure is performed in a state in which the function liquid to be discharged from the nozzle is capable of being received by the cap.

4. (original) The method according to claim 1, wherein the step of sucking

the function liquid is performed in a state in which the suction cap is kept adhered to the liquid droplet ejection head and, at a final stage, the suction cap is departed while continuing the sucking operation.

5. (currently amended) A method of filling a flow passage inside a liquid droplet ejection head with a function liquid, comprising the steps of:

_____ sending under pressure the function liquid for filling into the flow passage inside the liquid droplet ejection head;

_____ thereafter sucking the function liquid out of a nozzle of the liquid droplet ejection head~~The method according to claim 1, further comprising the step of;~~ and

_____ after the step of sucking the function liquid, temporarily sending under pressure the function liquid to the liquid droplet ejection head.

6. (currently amended) An apparatus for filling a flow passage inside a liquid droplet ejection head with a function liquid inside a function liquid storing part, comprising:

pressurized liquid sending means for sending under pressure the function liquid, by pressurizing the function liquid storing part, to thereby fill the flow passage inside the liquid droplet ejection head with the function liquid inside the function liquid storing part;

sucking means for sucking the function liquid out of a nozzle of the liquid droplet ejection head through a cap which is in close contact with the liquid droplet ejection head; and

control means for controlling the pressurized liquid sending means and the

sucking means,

wherein the control means drives the pressurized liquid sending means to thereby fill the flow passage inside a liquid droplet ejection head and thereafter drives the sucking means to thereby suck the function liquid from the liquid droplet ejection head;

wherein the control means starts the driving of the suction means after the driving of the pressurized liquid sending means is stopped; and

wherein the pressurized liquid sending means comprises:

a compressed air supply source for supplying the function liquid storing part with compressed air;

a pressurizing pipe which connects the compressed air supply source and the function liquid storing part; and

a pressurizing-side gate valve which is interposed in the pressurizing pipe and which is controlled to be opened and closed by the control means;

wherein driving and stopping of the pressurized liquid sending means are made by opening and closing of the pressurizing-side gate valve.

7. (canceled).

8. (canceled).

9. (currently amended) An apparatus for filling a flow passage inside a liquid droplet ejection head with a function liquid inside a function liquid storing part,

comprising:

_____ pressurized liquid sending means for sending under pressure the function liquid, by pressurizing the function liquid storing part, to thereby fill the flow passage inside the liquid droplet ejection head with the function liquid inside the function liquid storing part;

_____ sucking means for sucking the function liquid out of a nozzle of the liquid droplet ejection head through a cap which is in close contact with the liquid droplet ejection head;

_____ control means for controlling the pressurized liquid sending means and the sucking means, and

~~The apparatus according to claim 6, further comprising;~~

_____ a gate valve which is interposed in the a supply passage and which is opened and closed by the control means,

_____ wherein the control means drives the pressurized liquid sending means to thereby fill the flow passage inside a liquid droplet ejection head and thereafter drives the sucking means to thereby suck the function liquid from the liquid droplet ejection head; and

_____ wherein the control means closes the gate valve before start of driving of the suction means, starts driving of the suction means after closing the gate valve, and opens the gate valve while the suction means is being driven.

10. (original) The apparatus according to claim 9, wherein the control means opens and closes the gate valve for a plurality of times while the suction means is being driven.

11. (original) The apparatus according to claim 9, wherein the gate valve is interposed in the supply passage close to the liquid droplet ejection head.

12. (currently amended) An apparatus for filling a flow passage inside a liquid droplet ejection head with a function liquid inside a function liquid storing part, comprising:

_____ pressurized liquid sending means for sending under pressure the function liquid, by pressurizing the function liquid storing part, to thereby fill the flow passage inside the liquid droplet ejection head with the function liquid inside the function liquid storing part;

_____ sucking means for sucking the function liquid out of a nozzle of the liquid droplet ejection head through a cap which is in close contact with the liquid droplet ejection head; and

_____ control means for controlling the pressurized liquid sending means and the sucking means,

_____ wherein the control means drives the pressurized liquid sending means to thereby fill the flow passage inside a liquid droplet ejection head and thereafter drives the sucking means to thereby suck the function liquid from the liquid droplet ejection head; and

_____ ~~The apparatus according to claim 6, wherein the control means controls the pressurized liquid sending means and the suction means such that a flow velocity of the function liquid by the pressurized liquid sending means becomes smaller than a flow velocity of the function liquid by the suction means.~~

13. (original) The apparatus according to claim 6, wherein the cap also serves as a receptacle to receive the function liquid to be discharged from the nozzle of the liquid droplet ejection head as a result of driving of the pressurized liquid sending means.

14. (original) The apparatus according to claim 13, wherein the suction means comprises an access-and-departure mechanism for relatively moving the cap toward, and away from, the liquid droplet ejection head, and wherein at a last stage the control means moves, by the access-and departure mechanism, the cap away from the liquid droplet ejection head by the driving of the suction means while continuing the driving of the suction means.

15. (currently amended) An apparatus for filling a flow passage inside a liquid droplet ejection head with a function liquid inside a function liquid storing part, comprising:

pressurized liquid sending means for sending under pressure the function liquid, by pressurizing the function liquid storing part, to thereby fill the flow passage inside the liquid droplet ejection head with the function liquid inside the function liquid storing part;

sucking means for sucking the function liquid out of a nozzle of the liquid droplet ejection head through a cap which is in close contact with the liquid droplet ejection head; and

control means for controlling the pressurized liquid sending means and the

sucking means,

wherein the control means drives the pressurized liquid sending means to thereby fill the flow passage inside a liquid droplet ejection head and thereafter drives the sucking means to thereby suck the function liquid from the liquid droplet ejection head; and

The apparatus according to claim 6, wherein the control means temporarily drives the pressurized liquid sending means after the driving of the suction means has been stopped.

16. (currently amended) A liquid droplet ejection apparatus comprising:

a function liquid filling apparatus for the liquid droplet ejection head as set forth in claim 6; and

a liquid droplet ejection head for ejecting the function liquid from the nozzle by performing scanning relative to the a workpiece.

17. (original) The apparatus according to claim 16, wherein the function liquid filling apparatus for the liquid droplet ejection head further comprises a main tank which stores the function liquid to be supplied to the function liquid storing part and which causes the function liquid storing part to serve as a sub-tank, and wherein the pressurized liquid sending means also serves a function of supply means for supplying the function liquid from the main tank to the function liquid storing part.

18. (original) An electrooptic device comprising a film forming part which is

formed on a substrate by the function liquid ejected from the liquid droplet ejection head by using the liquid droplet ejection apparatus as set forth in claim 16.

19. (currently amended) A method of manufacturing an electrooptic device comprising the step of forming on a substrate a film forming part by ejecting the function liquid from the function liquid droplet ejection by using the liquid droplet ejection apparatus of claim 16.

20. (original) An electronic apparatus comprising the electrooptic device as set forth in claim 18.